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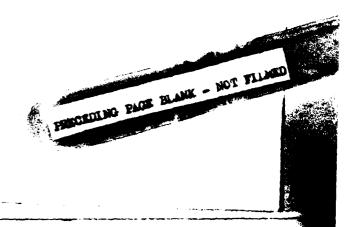
PHYSICAL PERFORMANCE STANDARDS FOR ARMY JOBS: CRITERION TASK MANUAL

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The Army Research Institute conducts basic research in topical areas of relevance to its exploratory and advanced development programs. Under investigation in the basic research program is a rating or scaling methodology for determining physical requirements of jobs, as an alternative to empirical methodologies. An initial product of this program, developed from tryout of the methodology for which early research has indicated acceptable reliability, is a listing of the tasks of four Army jobs scaled by their incumbents as the most physically demanding and the most critical. The jobs and their tasks are presented. The entire investigation is responsive to the objective of Army RDT&E Project 2Q161102B74F.

JOSEPH ZEIDNER Technical Director

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INTRODUCTION

The criterion manual consists of the physically demanding tasks associated with a specified military occupational specialty (MOS). The tasks selected for inclusion in this manual were derived from a study in which incumbents in each MOS rated the tasks performed in their job on eight physical ability measures and three criticality measures. The eight physical ability measures were upper body static strength (UBSS), lower body static strength (LBSS), upper body dynamic strength (UBDS), lower body dynamic strength (LBDS), upper body explosive strength (UBES), lower body explosive strength (LBES), trunk strength (TS) and stamina (S). The three criticality measures were consequences of inadequate performance (CIP), delay tolerance (DT), and learning difficulty (LD).

The tasks selected for this manual had to meet two standards: (1) each task had to have a mean rating above a statistically derived cutoff point and (2) the selected tasks from step "1" had to have a mean criticality rating exceeding a specified cutoff point. This procedure was followed for each ability in all four MOSs.

The manual is divided into four sections, Infantryman (11B), Combat Engineer (12B), Tank Crewman (19E), and Military Police (95B). Each section contains a listing of the highest physically demanding tasks for each physical ability (UBSS, LBSS, UBDS, LBDS, UBES, LBES, TS, S) associated with that particular MOS. These task listings for each ability are in rank order from the most physically demanding task to moderate physically demanding tasks. Each task listing is preceded by a brief definition of the physical ability.

Physical Abilities Clarification

The highest physically demanding tasks selected for each ability in an MOS can be compared to common work and recreational tasks found outside of the military setting. These common tasks require a high degree of physical ability and provide a reference point for comparison with physically demanding Army tasks.

Static strength is defined as the ability to use muscle force in order to lift, pull, or push objects and/or one's own body weight. The maximum muscular force that an individual can exert over a brief time period is used to initiate the movement of an object. It must be noted that the strength required to perform a specified task may only involve one area of the body musculature. Therefore static strength has been divided into upper and lower extremities to differentiate between tasks involving the upper back, shoulders, arms and hands, and those utilizing the legs and feet. For example, it has been demonstrated that reaching over and behind a table to lift a 70 lb. box requires a high degree of upper body static strength (UBSS) to initially lift the box from the ground as well as continuing the lift until the box is placed in a desired position. Another example of UBSS is carrying a 100 lb. box across a room 20 feet in length. These high physically demanding common tasks are very similar to highest ranked UBSS Tank Crewman task of carrying new track to a vehicle. The similarities in the tasks are the use of the hands, arms, and shoulders to move a heavy object, whether it is a piece of new track or a box.

Similarly, lifting a 100 lb. box is an example of a common task involving a high degree of lower body static strength (LBSS). Again this can be considered to involve the same amount of LBSS as carrying new track to a vehicle. It must be pointed out that this Army task involves a high degree of both upper and lower body static strength, and that both are necessary for the safe and effective performance of the task. However, it should be noted at this point that many tasks with high physical demands in one area may not always require high physical ability in another area. Reaching over and behind a table to lift a box is a prime example in that no additional LBSS, other than that required for balance, is necessary to successfully complete the task.

Dynamic strength is defined as the ability to exert muscular force repeatedly or continuously over time. It represents muscular endurance and emphasizes resistance to muscular fatigue when engaged in activities that require a specified group of muscles (e.g., hamstrings in the back

of the thigh) to continuously propel, support, or move the body and/or objects for prolonged periods of time. It is again necessary to divide the dynamic strength factor into upper and lower components due to the very distinct types of tasks that can be performed separately by the upper and lower extremities.

Examples of common upper body dynamic strength (UBDS) tasks include digging a 50 X 3 foot trench, holding and operating a fire hose for 30 minutes, and turning a valve continuously for 30 minutes. Each of these tasks involves the upper body musculature and because of the repeated action or continuously held position require a high degree of UBDS. An Army task that is similar to holding and operating a fire hose is the Combat Engineer task of eight men carrying a transom from a vehicle to a bridge site. Both tasks require continued muscular exertion over a prolonged time period. Further, two similar tasks involving lower body dynamic strength (LBDS) are (1) climb to the top of a 6,000 foot mountain and (2) eight men carrying a transom from a vehicle to a bridge sight. In both examples the legs are used to move the body and/or object from one location to another.

The final strength measure to be divided into the upper and lower components is explosive strength. This strength measure is defined as the ability to expend a maximum of energy in one or a series of acts of an explosive nature (e.g., jumping, throwing). Explosive strength is the greatest amount of force that can be applied in a very short time period. Examples of common upper body explosive strength (UBES) are throwing a softball 200 feet or hammering a stake three feet into the ground with a mall. Pulling two men apart in an attempt to break up a fight or using hand to hand combat to control an uncooperative subject in a bar are two illustrations of Military Police tasks requiring a high degree of UBES. Parallel examples involving lower body explosive strength are (1) run the 100 yard dash in 10 seconds and (2) perform rush for 75 meters within 25 seconds (Infantryman). In both sets of examples the criterion of speed of limb movement is met by having the extremities, arms, or legs, exert a burst of muscular force to move the body or the extremity itself.

The final strength measure, trunk strength (TS), is limited to the muscles located in the lower back and abdomen. It involves the use of these muscles to continuously support the upper part of the body in both dynamic and static positions. Performing 100 sit-ups or remaining in an awkward bent position for a prolonged time period are two common examples that are similar to the Army tasks of arm-carrying a casualty for 400 meters over hilly terrain. In all examples the trunk muscles must resist fatigue in order to continue effective performance of the task. Trunk strength is present in all tasks involving movement of the body. However, a distinction must be made between the amount of pure trunk strength necessary for efficient and safe performance.

Stamina, the ability of the respiratory and circulatory systems to perform efficiently over prolonged time periods, is limited by the oxygen carrying capacity of the blood. In order for a task to require a high degree of stamina it must increase the rate and depth of respiration. The Army task, arm-carry a casualty for 400 meters over hilly terrain, involves a high degree of stamina. Due to the unevenness of the terrain, the increase in total weight being moved, and the distance moved, this task may be as straining as running a mile in four minutes. Other tasks such as digging a 50 foot ditch or two-man foxhole may require a high degree of stamina if the task must be completed in a short time period.

These eight physical abilities have been found to be independent measures of strength and stamina. However the performance of any physical task usually involves a combination of two or more of the eight physical abilities. The actual combination needed to achieve the work objective in an effective, efficient, and safe manner may require a high degree of one ability (e.g., UBSS) and a moderate or low amount of another ability (e.g., LBES). Therefore tasks selected for this manual, possessing a high degree of one physical ability, may be found to require varying degrees of other physical abilities.

SECTION 1
Infantryman (11B)

Tasks Requiring a High Degree of Upper Body Static Strength

Upper body static strength is the ability to use muscle force in the upper part of the body (i.e., above the waist) in order to lift, push, or pull objects. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.
- 2. Carry new track to vehicle (30 lb. blocks of five shoes).
- 3. Arm-carry a casualty for 400 meters over hilly terrain.
- 4. Move as member of fire team in full gear (i.e., 50 lb. rucksack, pistol belt, canteen ammo pouches, individual weapon and steel helmet), for six hours over hilly terrain.
- 5. Carry a casualty on a litter using the two-man technique for two hours over hilly terrain.
- 6. Dig a two-man foxhole.
- 7. Move under direct fire in full gear.
- 8. Construct M60 machine gun positions.
- 9. Change tire on a five ton truck.
- 10. Dig a one-man foxhole.
- 11. Load/unload mortar ammunition onto vehicles.
- 12. Remove track from vehicle.

Tasks Requiring a High Degree of Lower Body Static Strength

Lower body static strength is the ability to use muscle force in the lower part of the body (i.e., below the waist) in crue: to lift, carry, push, or pull objects. This ability can involve a combination of muscles located in the feet, legs, and lower back.

- 1. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.
- 2. Move as member of fire team in full gear (i.e., 50 lb. rucksack, pistol belt, canteen, ammo pouches, individual weapon and steel helmet), for six hours over hilly terrain.
- 3. Move under direct fire in full gear.
- 4. Arm-carry a casualty for 400 meters over hilly terrain.
- 5. Carry water in two 5-gallon cans for 100 meters to obtain drinking water.
- 6. Carry a casualty on a litter using the two-man technique for two hours over hilly terrain.
- 7. Perform rush for 75 meters within 25 seconds.
- 8. Climb a 20 ft. tree to erect field expedient antenna.

Tasks Requiring a High Degree of Upper Body Dynamic Strength

Upper body dynamic strength ability involves the degree to which the <u>muscles</u> in the upper part of the body (i.e., above the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the hands, arms, upper back, and shoulders.

- 1. Carry new track to vehicle (30 lb. blocks of 5 shoes).
- 2. Dig a two-man foxhole.
- 3. Carry water in two 5-gallon cans for 100 meters to obtain drinking water.
- 4. Arm-carry a casualty for 400 meters over hilly terrain.
- 5. Dig a one-man foxhole.
- 6. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.

Tasks Requiring a High Degree of Lower Body Dynamic Strength

Lower body dynamic strength ability involves the degree to which the <u>muscles</u> in the lower part of the body (i.e., below the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the feet and legs.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.
- 3. Move as member of fire team in full gear (i.e., 50 lb. rucksack, pistol belt, canteen, ammo pouches, individual weapon and steel helmet), for six hours over hilly terrain.
- 4. Move under direct fire in full gear.
- 5. Carry water in two 5-gallon cans for 100 meters to obtain drinking water.
- 6. Arm-carry a casualty for 400 meters over hilly terrain.

Tasks Requiring a High Degree of Upper Body Explosive Strength

Upper body explosive strength is the ability to use <u>short burst</u>: of muscle force in the upper part of the body (i.e., above the waist) to propel one's self, as in throwing objects. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.

Tasks Requiring a High Degree of Lower Body Explosive Strength

Lower body explosive strength is the ability to use <u>short bursts</u> of muscle force in the lower part of the body (i.e., below the waist) to propel one's self, as in jumping or sprinting. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the feet and legs.

- 1. Arm-carry a casualty for 400 meters over hilly terrain.
- 2. Perform rush for 75 meters within 25 seconds.
- 3. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.
- 4. Move under direct fire in full gear.
- 5. Carry new track to vehicle (30 lb. blocks of five shoes).
- 6. Carry a casualty on a litter using the two-man technique for two hours over hilly terrain.

Tasks Requiring a High Degree of Trunk Strength

Trunk strength ability involves the degree to which one's stomach and lower back muscles can support part of the body repeatedly or continuously over time. The ability involves the degree to which these trunk muscles do not "give out," or fatigue, when they are put under such repeated or continuous strain.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Arm-carry a casualty for 400 meters over hilly terrain.
- 3. Carry a casualty on a litter using the two-man technique for two hours over hilly terrain.
- 4. Load/unload mortar ammunition onto vehicles.
- 5. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.

Tasks Requiring a High Degree of Stamina

Stamina is the ability to exert oneself physically over a period of time without getting winded or out of breath.

- 1. Arm-carry a casualty for 400 meters over hilly terrain.
- 2. Carry a casualty on a litter using a one-man pull for two hours over hilly terrain.
- 3. Carry a casualty on a litter using the two-man technique for two hours over hilly terrain.
- 4. Move under direct fire in full gear.

SECTION II

Combat Engineer (12B)

Tasks Requiring a High Degree of Upper Body Static Strength

Upper body static strength is the ability to use muscle force in the upper part of the body (i.e., above the waist) in order to lift, push, or pull objects. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Install deck balk.
- 2. Carry ramps from vehicle to bridge.
- 3. Eight men carry transom from vehicle to bridge site.
- 4. Six men carry panels from vehicle to bridge site.
- 5. Ten men carry pontoon from vehicle to bridge site.
- 6. Erect an anchor tower securing them by guy lines.
- 7. Unload float from vehicle.

Tasks Requiring a High Degree of Lower Body Static Strength

Lower body static strength is the ability to use muscle force in the lower part of the body (i.e., below the waist) in order to lift, carry, push, or pull objects. This ability can involve a combination of muscles located in the feet, legs, and lower back.

- 1. Six men carry panels from vehicle to bridge site.
- 2. Eight men carry transom from vehicle to bridge site.
- 3. Ten men carry pontoon from vehicle to bridge site.
- 4. Install deck balk.
- 5. Carry ramps from vehicle to bridge.
- 6. Four men carry saddle adapter from vehicle to bridge site.
- 7. Unload float from vehicle.

Tasks Requiring a High Degree of Upper Body Dynamic Strength

Upper body dynamic strength ability involves the degree to which the <u>muscles</u> in the upper part of the body (i.e., above the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the hands, arms, upper back, and shoulders.

- 1. Eight men carry transom from vehicle to bridge site.
- 2. Six men carry panels from vehicle to bridge site.

Tasks Requiring a High Degree of Lower Body Dynamic Strength

Lower body dynamic strength ability involves the degree to which the <u>muscles</u> in the lower part of the body (i.e., below the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the feet and legs.

- 1. Eight men carry transom from vehicle to bridge site.
- 2. Six men carry panels from vehicle to bridge site.
- 3. Ten men carry pontoon from vehicle to bridge site.
- 4. Carry ramps from vehicle to bridge.
- 5. Four men carry decking from vehicle to bridge site.
- 6. Install deck balk.
- 7. Four men carry saddle adapter from vehicle to bridge site.
- 8. Unload float from vehicle.

Tasks Requiring a High Degree of Upper Body Explosive Strength

Upper body explosive strength is the ability to use <u>short bursts</u> of muscle force in the upper part of the body (i.e., above the waist) to propel one's self, as in throwing objects. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

Task List:

1. Six men carry panels from vehicle to bridge site.

Tasks Requiring a High Degree of Lower Body Explosive Strength

Lower body explosive strength is the ability to use <u>short bursts</u> of muscle force in the lower part of the body (i.e., below the waist) to propel one's self, as in jumping or sprinting. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the feet and legs.

Task List:

1. Ten men carry pontoon from vehicle to bridge site.

Tasks Requiring a High Degree of Trunk Strength

Trunk strength ability involves the degree to which one's stomach and lower back muscles can support part of the body repeatedly or continuously over time. The ability involves the degree to which these trunk muscles do not "give out," or fatigue, when they are put under such repeated or continuous strain.

- 1. Eight men carry transom from vehicle to bridge site.
- 2. Install deck balk.
- 3. Carry ramps from vehicle to bridge.
- 4. Six men carry panels from vehicle to bridge site.
- 5. Four men carry decking from vehicle to bridge site.
- 6. Ten men carry pontoon from vehicle to bridge site.
- 7. Four men carry saddle adapter from vehicle to bridge site.
- 8. Connect the end of the transom to top of the panels using a raker.
- 9. Install panels.
- 10. Unroll float and inflate.
- 11. Emplace decking onto pontoons.
- 12. Move decking into place using a 60" pinch bar.
- 13. Two men maneuver pontoons in water in order to hook them together with pins.
- 14. Install picket holdfasts to tie onto for anchorage.
- 15. When motor is unavailable paddle boat across river (three man crew).
- 16. Emplace chess to form the road surface on the bridge.
- 17. Emplace stringers.
- 18. Install riband to serve as the bridge's curb.
- 19. Remove boat from vehicle.
- 20. Carry boat to water.
- 21. Unload float from vehicle.
- 22. Connect two half floats.
- 23. Erect an anchor tower securing them by quy lines.

Tasks Requiring a High Degree of Stamina

Stamina is the ability to exert oneself physically over a period of time without getting winded or out of breath.

- 1. Six men carry panels from vehicle to bridge site.
- 2. Eight men carry transom from vehicle to bridge site.

SECTION III

Tank Crewman (19E)

Tasks Requiring a High Degree of Upper Body Static Strength

Upper body static strength is the ability to use muscle force in the upper part of the body (i.e., above the waist) in order to lift, push, or pull objects. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Remove armored/track vehicle tracks.
- 3. Pull unconscious crew member out of burning armored/track vehicle.
- 4. Pass ammunition from ground to person on turret.
- 5. Unload main gun ammunition from vehicle.
- 6. Carry casualties on litters using one-man pull during medical evacuation.
- 7. Remove round from ammo well and load M60/M60Al tank main gun for three successive firings.

Tasks Requiring a High Degree of Lower Body Static Strength

Lower body static strength is the ability to use muscle force in the lower part of the body (i.e., below the waist) in order to lift, carry, push, or pull objects. This ability can involve a combination of muscles located in the feet, legs, and lower back.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Escape from overturned armored/track vehicle.
- 3. Pull unconscious crew member out of burning armored/track vehicle.
- 4. Carry casualties on litters using one-man pull during medical evacuation.

Tasks Requiring a High Degree of Upper Body Dynamic Strength

Upper body dynamic strength ability involves the degree to which the <u>muscles</u> in the upper part of the body (i.e., above the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the hands, arms, upper back, and shoulders.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Remove armored/track vehicle tracks.
- 3. Pull unconscious crew member out of burning armored/track vehicle.
- 4. Pass ammunition from ground to person on turret.
- 5. Unload main gun ammunition from vehicle.

Tasks Requiring a High Degree of Lower Body Dynamic Strength

Lower body dynamic strength ability involves the degree to which the <u>muscles</u> in the lower part of the body (i.e., below the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the feet and legs.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Carry casualties on litters using one-man pull during medical evacuation.
- 3. Pull unconscious crew member out of burning armored/track vehicle.

Tasks Requiring a High Degree of Upper Body Explosive Strength

Upper body explosive strength is the ability to use <u>short bursts</u> of muscle force in the upper part of the body (i.e., above the waist) to propel one's self, as in throwing objects. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

Task List:

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Pull unconscious crew member out of burning armored/track vehicle.

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Tasks Requiring a High Degree of Lower Body Explosive Strength

Lower body explosive strength is the ability to use <u>short bursts</u> of muscle force in the lower part of the body (i.e., below the waist) to propel one's self, as in jumping or sprinting. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the feet and legs.

Task List:

1. Pull unconscious crew member out of burning armored/track vehicle.

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Tasks Requiring a High Degree of Trunk Strength

Trunk strength ability involves the degree to which one's stomach and lower back muscles can support part of the body repeatedly or continuously over time. The ability involves the degree to which these trunk muscles do not "give out," or fatigue, when they are put under such repeated or continuous strain.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Remove armored/track vehicle tracks.
- 3. Pull unconscious crew member out of burning armored/track vehicle.
- 4. Unload misfired main gun round from M60/M60A1 tank.

Tasks Requiring a High Degree of Stamina

Stamina is the ability to exert oneself physically over a period of time without getting winded or out of breath.

- 1. Carry new track to vehicle (30 lb. blocks of five shoes).
- 2. Remove armored/track vehicle tracks.
- 3. Carry casualties on litters using one-man pull during medical evacuation.
- 4. Pass ammunition from ground to person on turret.
- 5. Unload main gun ammunition from vehicle.
- 6. Remove ammunition from containers.

SECION IV
Military Police (958)

Tasks Requiring a High Degree of Upper Body Static Strength

Upper body static strength is the ability to use muscle force in the upper part of the body (i.e., above the waist) in order to lift, push, or pull objects. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Control an uncooperative subject in a bar using hand to hand combat.
- 2. Carry casualties on litters using one-man pull during medical evacuation.
- Apprehend/detain violators during CD operations using hand to hand combat.
- 4. Load/unload ammunition and supplies from vehicles.
- 5. Pull two men apart in an attempt to break up a fight (AFRAY).
- 6. Climb over a six foot wall in pursuit of a law violator.

Tasks Requiring a High Degree of Lower Body Static Strength

Lower body static strength is the ability to use muscle force in the lower part of the body (i.e., below the waist) in order to lift, carry, push, or pull objects. This ability can involve a combination of muscles located in the feet, legs, and lower back.

- Run through wooded area for approximately 1.6 kilometers to apprehend a law violator.
- 2. Carry casualties on litters using one-man pull during medical evacuation.
- 3. Climb fire escape of five story building to roof for observation of CD operation.
- 4. Move over, through and around barbed wire obstacles.

Tasks Requiring a High Degree of Upper Body Dynamic Strength

Upper body dynamic strength ability involves the degree to which the <u>muscles</u> in the upper part of the body (i.e., above the waist) do not <u>fatigue</u> when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the hands, arms, upper back, and shoulders.

- 1. Control an uncooperative subject using a night stick.
- 2. Carry casualties on litters using one-man pull during medical evacuation.
- 3. Climb over a six foot wall in pursuit of a law violator.

Tasks Requiring a High Degree of Lower Body Dynamic Strength

Lower body dynamic strength ability involves the degree to which the muscles in the lower part of the body (i.e., below the waist) do not fatigue when exerted in repeated or continuous movements. This is the ability to support, hold up, or move the body's own weight and/or objects repeatedly or continuously over time using muscles located in the feet and legs.

- Run through wooded area for approximately 1.6 kilometers to apprehend a law violator.
- Carry casualties on litters using one-man pull during medical evacuation.

Tasks Requiring a High Degree of Upper Body Explosive Strength

Upper body explosive strength is the ability to use <u>short bursts</u> of muscle force in the upper part of the body (i.e., above the waist) to propel one's self, as in throwing objects. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the hands, arms, upper back, and shoulders.

- 1. Pull two men apart in an attempt to break up a fight (AFRAY).
- 2. Apprehend/detain violators during CD operations using hand to hand combat.
- 3. Control an uncooperative subject in a bar using hand to hand combat.
- 4. Carry casualties on litters using one-man pull during medical evacuation.
- 5. Climb over a six foot wall in pursuit of a law violator.
- 6. Load/unload ammunition and supplies from vehicles.

Tasks Requiring a High Degree of Lower Body Explosive Strength

Lower body explosive strength is the ability to use <u>short bursts</u> of muscle force in the lower part of the body (i.e., below the waist) to propel one's self, as in jumping or sprinting. It requires gathering energy for bursts of muscular effort. This ability can involve a combination of muscles located in the feet and legs.

- 1. Run through wooded area for approximately 1.6 kilometers to apprehend a law violator.
- 2. Climb over a six foot wall in pursuit of a law violator.
- 3. Apprehend/detain violators during CD operations using hand to hand combat.
- 4. Pull two men apart in an attempt to break up a fight (AFRAY).
- 5. Climb fire escape of five story building to roof for observation of CD operation.

Tasks Requiring a High Degree of Trunk Strength

Trunk strength ability involves the degree to which one's stomach and lower back muscles can support part of the body repeatedly or continuously over time. The ability involves the degree to which these trunk muscles do not "give out," or fatigue, when they are put under such repeated or continuous strain.

- 1. Carry casualties on litters using one-man pull during medical evacuation.
- 2. Apprehend/detain violators during CD operations using hand to hand combat.
- Assist in evacuating injured/deceased personnel at scene of a traffic accident.

Tasks Requiring a High Degree of Stamina

Stamina is the ability to exert oneself physically over a period of time without getting winded or out of breath.

- 1. Run through wooded area for approximately 1.6 kilometers to apprehend a law violator.
- 2. Carry casualties on litters using one-man pull during medical evacua-
- Apprehend/detain violators during CD operations using hand to hand combat.
- 4. Load/unload ammunition and supplies from vehicles.
- 5. Climb over a six foot wall in pursuit of a law violator.